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# ENHANCING THE TEACHING OF DIAGNOSIS IN THE PHARMACY USING AUGMENTED REALITY (AR)

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## Objective

The development of the new MPharm curriculum at the University of Bath has led to opportunities to enhance the fidelity of the classroom based teaching. Augmented Reality (AR) layers digital information onto scenarios to enhance the reality of the situation. This paper describes a two phase pilot to use AR techniques to support the teaching of diagnosis in the pharmacy.



## Design

Academic staff developed a series of case vignettes to support the teaching of simple diagnosis making in the pharmacy. To enhance the fidelity of the symptoms being described, audible cough sounds were created using Aurasma. These were used during Applied Pharmacy Practice Skills (APPS) classes to enhance the diagnosis and management case vignettes on coughs. Student's views were captured after the teaching intervention to review the acceptability of this tool and the wider application of this technology.

## Assessment

23 second year pharmacy undergraduates were asked to feedback on the usefulness of using AR in a diagnosis and management session. It was well received by the students however two stated they had concerns with technical issues during the set up. Of the students surveyed, 100% stated that they enjoyed the workshop.

The students were asked where else they felt that AR could be used in the MPharm degree. Their answers included more diagnosis and management workshops, more workshops relating to disease, skin conditions, CNS/CV lectures. There were a large number of positive comments from the students in relation to using this form of AR.

Student comments in relation to better differential diagnosis:

*'Helped identify the differences in the coughs'* Student 1

*'Helped to understand the symptoms better by listening to them'* Student 4

Student comments in relation to enhancing the fidelity of learning:

*'Made the scenarios more realistic'* Student 16

*'It helped us so that when we are faced with this in practice we are more prepared.'* Student 21

## Conclusion

From the students' feedback, using AR in diagnosis and management case vignettes for coughs added to the learning experience. It helped to make the case vignettes more realistic by actually providing the students an opportunity to listen to the different types of cough before confirming diagnosis and treatment plan. Using AR is a novel method of bridging the gap between lecture theatre and practice. It allows students the opportunity to practice in a simulated environment safe in the knowledge they will not cause patient harm and it allows the teaching staff the ability to increase the complexity of the case vignettes as the degree progresses.

We would like to thank all the students for their engagement and feedback.